

## Catalogue of American Amphibians and Reptiles.

Powell, R. 1992. *Peltophryne guentheri*.

***Peltophryne guentheri* (Cochran)**

*Bufo strumosus*: Gravenhorst, 1829:59 (but not of Daudin, 1802). See Remarks.

*Bufo guttuosus*: Günther, 1859:67 (but not of Sonnini and Latreille, 1801). See Remarks.

*Phrynomantis guttuosus*: Cope, 1863 (1962):358.

*Bufo guentheri* Cochran, 1941:8. Type-locality, "probably Port-au-Prince, [Département de l'Ouest], Haiti." Holotype, USNM 59081, an adult female, collected by Celestino Bencomo in 1916 (but see Remarks). Not examined by author.

*Bufo guentheri*: Ruibal, 1959:1.

*Peltophryne guentheri*: Pregill, 1981:273.

*Peltophryne guentheri*: Frost, 1985:74.

*Peltophryne guentheri*: Schwartz and Henderson, 1988:45. See Comments.

• **Content.** Two subspecies are recognized (but see Remarks): *guentheri* and *fracta*.

• **Definition.** *Peltophryne guentheri* is a moderately-sized toad (females to 101 mm) with distinct cranial crests and a deep hollow between the orbits. The snout is prominent and the tympani elliptical. The paratoid glands are large, descending below the tympanum, but indistinct posteriorly. The dorsum contains numerous scattered small spinose tubercles, those in the paratoid areas prominent and nonspinose. The venter is tuberculate, fine on the throat, heavy under the thighs.

Ground color is variable, light yellowish tan or grayish green to dark olivaceous brown, and most conspicuous as a pair of dorsolateral stripes created by the absence of any pattern from the paratoid glands to the groin. A dark reticulum or pattern of vermiculations is prominent on the dorsum and upper surfaces of the thighs on specimens from the eastern República Dominicana (*P. g. fracta*), less so elsewhere. A light middorsal line is often present. Other prominent markings frequently include a pair of dark triangles behind the paratoids and a pair of sacral blotches. The antibrachium and crus are characterized by distinct dark bands, and dark marbling or reticulations may be found on the brachium and lower sides, the latter fading into the paler venter, but often persisting as discrete dark spots (especially in *P. g. fracta*). Ventral ground color is creamy white to grayish brown.

Schwartz (1972) and Schwartz and Henderson (1991) characterized the call as a repetitive "wahnk ... wahnk ... wahnk". Vocalization was described erroneously as a "guttural trill much like that of *B. marinus*" (probably was *B. marinus*) by Lynn, 1958.

• **Diagnosis.** *Peltophryne guentheri* may be distinguished



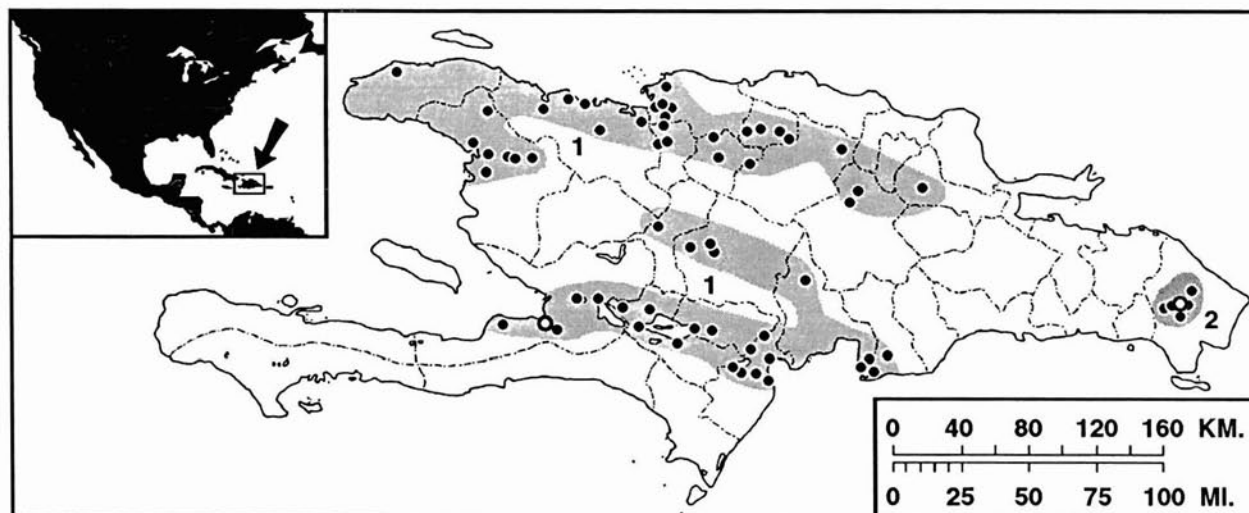
**Figure 1.** Adult *Peltophryne g. guentheri* (Bobby Witcher Memorial Collection, BWMC 03287) from 8 km W Baní, Provincia de Peravia, República Dominicana.



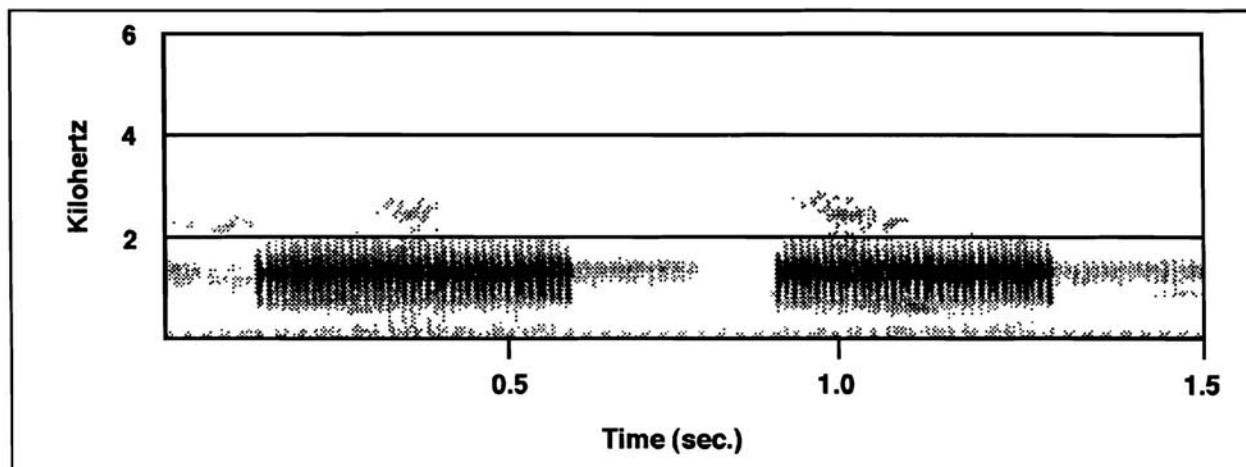
**Figure 2.** Adult male *Peltophryne guentheri fracta* (USNM 259556) from Higüey, Provincia de La Altagracia, República Dominicana. Photograph by K.T. Nemuras, courtesy U.S. National Museum.

from its Hispaniolan congener, *P. fluviatica*, by the presence of prominent cranial crests and a keratinized inner metatarsal tubercle (Henderson and Schwartz, 1984; Henderson et al., 1984; Schwartz, 1972).

• **Descriptions.** In addition to the original descriptions of Cochran (1941) and Schwartz (1972), Schwartz and Henderson (1991) provided an excellent description. Brief descriptions are in some other references listed in the synonymy and many listed under



**Map.** Range of *Peltophryne guentheri* (modified from Schwartz and Henderson, 1991). Large open circles mark type-localities, solid circles mark other records.



**Figure 3.** Audiospectrogram of the mating call of *Peltophryne guentheri fracta* (USNM 259556) from Higüey, Provincia de La Altagracia, República Dominicana. Recorded by R.I. Crombie (USNM tape 49) on 5 August 1978, air temperature 25.8°C.

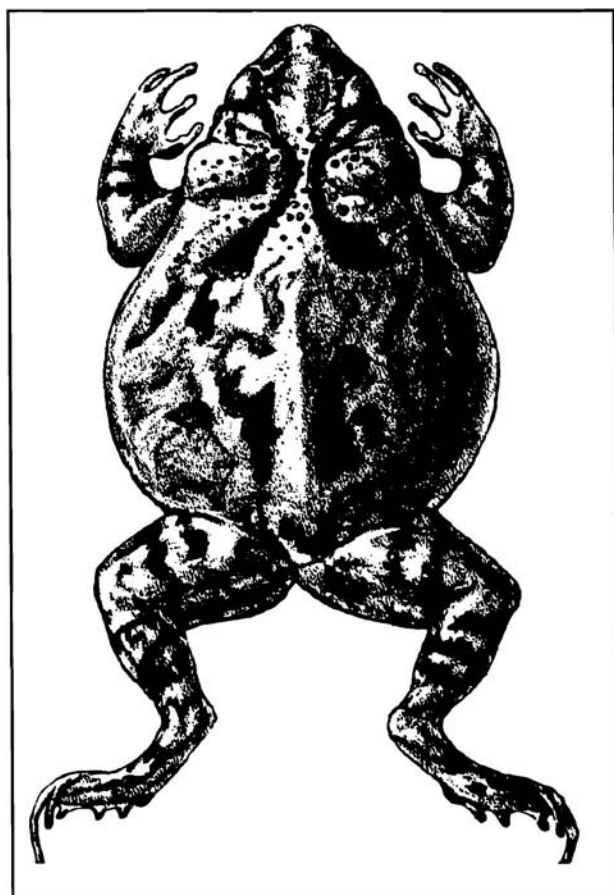
**Pertinent Literature.** Tihen (1962) and Pregill (1981) described cranial features.

• **Illustrations.** Specimens attributable to this species were illustrated in Gravenhorst (1829) and Günther (1858). Line drawings were provided by Cochran (1941) (dorsal view of the type-specimen, lateral view of the head and the feet of Haitian specimens, and a diagram of a juvenile pattern), Ruibal (1959) (dorsal and lateral views of the head), and Schwartz (1972) (holotype of *P. g. fractus*, dorsal view of *P. g. guentheri*, and a plantar view of the foot). Photographs of skeletal features are in Tihen (1962) (dorsal, lateral, ventral, and occipital aspects of the skull, vertebral column, and ilium) and in Pregill (1981) (dorsal, lateral, and ventral views of the skull); the latter

also included line drawings of the rostral elements and maxillary arch and of the squamosal-maxillary articulation.

• **Distribution.** A Hispaniolan endemic, the species is known from the Plaine de Cul de Sac - Valle de Neiba and lower adjacent xeric montane slopes, east through the Llanos de Azua and northwest into the Valle de San Juan to the Dominican-Haitian border; from northwestern Hispaniola in Haiti east through the Valle de Cibao; and from the extreme eastern Dominican Republic in the vicinity of Higüey. The range was illustrated in Schwartz (1972) and Schwartz and Henderson (1991).

• **Fossil Record.** None.



**Figure 4.** Dorsal view of *Peltophryne g. guentheri* (ASFS X4350) from Jimaní, Provincia de Independencia, República Dominicana (from Schwartz, 1972).



**Figure 5.** Dorsal view of the holotype of *Peltophryne guentheri fracta* (USNM 189235) from 1.1 km W Higüey, Provincia de La Altagracia, República Dominicana (from Schwartz, 1972).

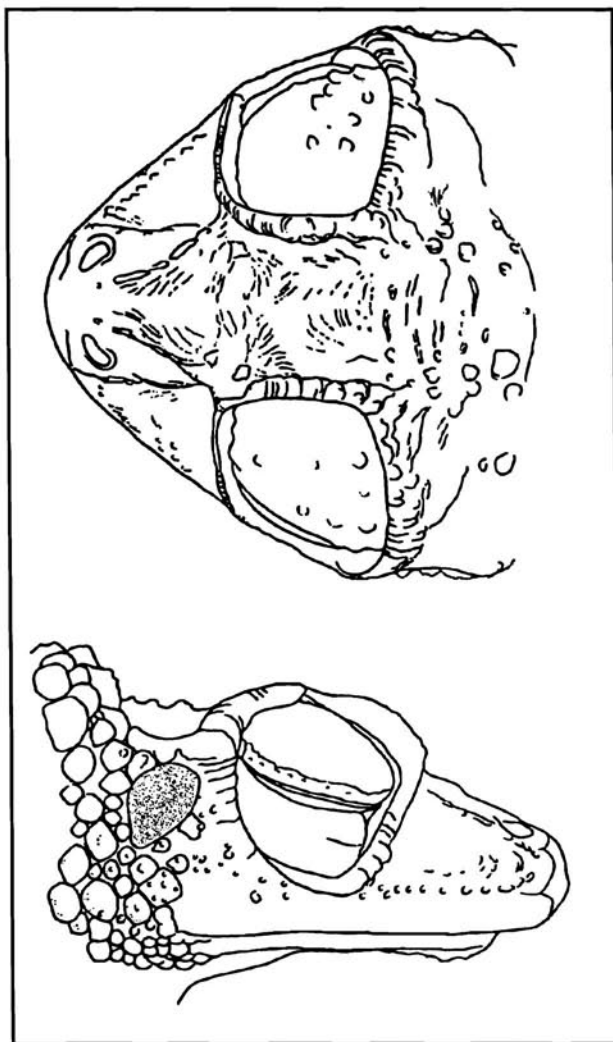


Figure 6. Dorsal and lateral views of the head of *Peltophryne guentheri* (MCZ 3104) (from Ruibal, 1959). Used with permission, Museum of Comparative Zoology, Harvard University.

• **Pertinent Literature.** Cochran (1941) summarized the pertinent literature, described a series of specimens, and discussed the status of older names placed in synonymy. Shreve and Williams (1963) assigned *guentheri* to the "Caribbean section" of New World bufonids. Schwartz (1972) distinguished subspecies and provided significant information on natural history (summarized in Schwartz and Henderson, 1991). Tihen (1962) and Pregill (1981) discussed cranial morphology and relationships among bufonids and congeners, respectively. Schwartz (1980) characterized the species as a North Island invader of the South Island. SEA/DVS (1990) provided an index of Dominican habitats.

The species is included in checklists, keys, and guides by Ruibal (1959), Schwartz and Thomas (1975), Henderson and Schwartz (1984), Henderson et al. (1984), and Schwartz and Henderson (1985, 1988, 1991). Other references noting the occurrence of the species in various collections or from various localities are in Gravenhorst (1829), Duméril and Bibron (1841), Günther (1858), Cope (1863), Boulenger (1882), Garman (1887), Fischer (1888), Müller (1892), Barbour (1914, 1930, 1935, 1937), Schmidt (1921, 1928), Nieden (1923), Mertens (1938, 1939a, b), Böker (1939), Lynn (1958), Shreve and Williams (1963), Williams et al. (1963), and SEA/DVS (1992a, b).

• **Remarks.** Cochran (1941) quoted a manuscript note by Dr. Stejneger: "There can be no doubt that Latreille and Daudin described as *Bufo guttuosus* (and the latter also as *B. strumosus*) a toad totally different from the one occurring in Santo Domingo or any of the Antilles. Short and unsatisfactory as are their descriptions, the statement that 'all the digits are a little separated, without membranes and short' is sufficient to preclude the adoption of the name to the present species. The habitat of the type specimen was unknown, and

the specimen itself appears to be lost, so that it may never be known to what species the name really belongs."

The catalogue entry for type-specimen and other material collected by Bencomo is "probably Port-au-Prince", a fact not mentioned by Cochran (1941). This material was catalogued with a larger collection made by Henderson and Bartsch in 1917 and was probably given to them in Port-au-Prince by Bencomo (R.I. Crombie, in litt. 18.II.92). The collection contains species that would be expected from that area, and the locality is probably reliable.

Pregill (1981) suggested that *P. g. fracta* may represent a distinct species.

• **Etymology.** Though not specifically stated by Cochran (1941), *guentheri* is apparently a patronym honoring Albert Günther. The subspecific name, *fractus*, is derived from the Latin, meaning "broken," an allusion to the extremely disjunct distribution of these populations (Schwartz, 1972).

• **Comment.** The use of *Peltophryne*, initially by Schwartz and Henderson (1988) and subsequently in other publications by the same authors, was based on the premise that as *phryne* is feminine, the adjectival portion of the name should agree in gender (A. Schwartz, pers. comm.). However, the ICZN does not ordain this agreement and I have continued to use the traditional spelling.

## 1. *Peltophryne guentheri guentheri* (Cochran)

*Bufo strumosus*: Gravenhorst, 1829:59.

*Bufo guttuosus*: Günther, 1859:67.

*Phrynoidis guttuosus*: Cope, 1863 (1862):358.

*Bufo guentheri*: Cochran, 1941:8. See species synonymy.

*Bufo guntheri*: Ruibal, 1959:1.

*Bufo guentheri guentheri*: Schwartz, 1972:218.

*Bufo guentheri guentheri*: Schwartz and Thomas, 1975:11.

*Peltophryne guentheri guentheri*: Pregill, 1981:274.

*Peltophryne guentheri guentheri*: Schwartz and Henderson, 1988:45.

• **Diagnosis.** This subspecies is characterized by its larger size (males to 74 mm, females to 101 mm) and lighter coloration. Dark dorsal markings are largely restricted to interparatoid triangles and sacral blotches. Vermiculations are light, tan or gray. The venter is nearly always an immaculate creamy white. A middorsal light line is nearly always present, often broad in males.

## 2. *Peltophryne guentheri fracta* (Schwartz)

*Bufo guentheri fractus*: Schwartz, 1972:218. Type-locality, "0.7 mi. (1.1 km) W Higüey, La Altagracia Province, República Dominicana." Holotype, USNM 189235 (original number ASFS V784), an adult male, collected on 28 August 1963 by Richard Thomas and Albert Schwartz. Not examined by author.

*Bufo guntheri fractus*: Schwartz and Thomas, 1975:12.

*Peltophryne guentheri fractus*: Pregill, 1981:274.

*Peltophryne guentheri fracta*: Schwartz and Henderson, 1988:46.

• **Diagnosis.** This subspecies is characterized primarily by its smaller size (males to 67 mm, females to 80 mm) and darker coloration. The dorsum is very dark, with black or dark brown vermiculations and marbling. The venter is nearly always grayish, usually with scattered dark gray to dark brown or black spots (especially in males). A light middorsal line, if present, is narrow.

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